SEQUENCE LISTING

<110> CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS
<110> BIONOSTRA, S.L.

<120> EMPTY CAPSIDS (VLPs(-VP4)) OF THE INFECTIOUS BURSAL DISEASE VIRUS
      (IBDV), OBTAINMENT PROCESS AND APPLICATIONS

<130> P1392PC

<150> ES P200400121
<151> 2004-01-21 (January 21, 2004)

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<170> PatentIn version 3.1

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aac ctg tca gat caa acc cag cag att gtt ccg ttc ata cgg agc ctt          344
Asn Leu Ser Asp Gln Thr Gln Gln Ile Val Pro Phe Ile Arg Ser Leu
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ctg atg cca aca acc gga ccg gcg tcc att ccg gac gac acc ctg gag          392
Leu Met Pro Thr Thr Gly Pro Ala Ser Ile Pro Asp Asp Thr Leu Glu
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aag cac act ctc agg tca gag acc tcg acc tac aat ttg act gtg ggg          440
Lys His Thr Leu Arg Ser Glu Thr Ser Thr Tyr Asn Leu Thr Val Gly
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gac aca ggg tca ggg cta att gtc ttt ttc cct gga ttc cct ggc tca          488
Asp Thr Gly Ser Gly Leu Ile Val Phe Phe Pro Gly Phe Pro Gly Ser
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att gtg ggt gct cac tac aca ctg cag ggc aat ggg aac tac aag ttc          536
Ile Val Gly Ala His Tyr Thr Leu Gln Gly Asn Gly Asn Tyr Lys Phe
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Asp Gln Met Leu Leu Thr Ala Gln Asn Leu Pro Ala Ser Tyr Asn Tyr
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Cys Arg Leu Val Ser Arg Ser Leu Thr Val Arg Ser Ser Thr Leu Pro
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Leu Glu Lys His Thr Leu Arg Ser Glu Thr Ser Thr Tyr Asn Leu Thr
        35                  40                  45

Val Gly Asp Thr Gly Ser Gly Leu Ile Val Phe Phe Pro Gly Phe Pro
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Gly Ser Ile Val Gly Ala His Tyr Thr Leu Gln Gly Asn Gly Asn Tyr
65                  70                  75                  80

Lys Phe Asp Gln Met Leu Leu Thr Ala Gln Asn Leu Pro Ala Ser Tyr
                85                  90                  95

Asn Tyr Cys Arg Leu Val Ser Arg Ser Leu Thr Val Arg Ser Ser Thr
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Leu Pro Gly Gly Val Tyr Ala Leu Asn Gly Thr Ile Asn Ala Val Thr
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Phe Gln Gly Ser Leu Ser Glu Leu Thr Asp Val Ser Tyr Asn Gly Leu
    130                 135                 140

Met Ser Ala Thr Ala Asn Ile Asn Asp Lys Ile Gly Asn Val Leu Val
145                 150                 155                 160

Gly Glu Gly Val Thr Val Leu Ser Leu Pro Thr Ser Tyr Asp Leu Gly
                165                 170                 175

Tyr Val Arg Leu Gly Asp Pro Ile Pro Ala Ile Gly Leu Asp Pro Lys
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Met Val Ala Thr Cys Asp Ser Ser Asp Arg Pro Arg Val Tyr Thr Ile
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Leu Met Pro Phe Asn Leu Val Ile Pro Thr Asn Glu Ile Thr Gln Pro
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11

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Glu Phe Lys Glu Thr Pro Glu Leu Glu Ser Ala Val Arg Ala Met Glu
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Met Trp Leu Glu Glu Asn Gly Ile Val Thr Asp Met Ala Asn Phe Ala
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ctc agc gac ccg aac gcc cat cgg atg cga aat ttt ctt gca aac gca       8289
Leu Ser Asp Pro Asn Ala His Arg Met Arg Asn Phe Leu Ala Asn Ala
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Pro Gln Ala Gly Ser Lys Ser Gln Arg Ala Lys Tyr Gly Thr Ala Gly
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Tyr Gly Val Glu Ala Arg Gly Pro Thr Pro Glu Glu Ala Gln Arg Glu
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aaa gac aca cgg atc tca aag aag atg gag acc atg ggc atc tac ttt       8433
Lys Asp Thr Arg Ile Ser Lys Lys Met Glu Thr Met Gly Ile Tyr Phe
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gca aca cca gaa tgg gta gca ctc aat ggg cac cga ggg cca agc cca       8481
Ala Thr Pro Glu Trp Val Ala Leu Asn Gly His Arg Gly Pro Ser Pro
            120             125                 130

ggc cag gta aag tac tgg cag aac aaa cga gaa ata ccg gac cca aac       8529
Gly Gln Val Lys Tyr Trp Gln Asn Lys Arg Glu Ile Pro Asp Pro Asn
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gag gac tat cta gac tac gtg cat gca gag aag agc cgg ttg gca tca       8577
Glu Asp Tyr Leu Asp Tyr Val His Ala Glu Lys Ser Arg Leu Ala Ser
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Glu Glu Gln Ile Leu Arg Ala Ala Thr Ser Ile Tyr Gly Ala Pro Gly
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cag gca gag cca ccc caa gct ttc ata gac gaa gtt gcc aaa gtc tat       8673
Gln Ala Glu Pro Pro Gln Ala Phe Ile Asp Glu Val Ala Lys Val Tyr
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gaa atc aac cat gga cgt ggc cca aac caa gaa cag atg aaa gat ctg       8721
Glu Ile Asn His Gly Arg Gly Pro Asn Gln Glu Gln Met Lys Asp Leu
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ctc ttg act gcg atg gag atg aag cat cgc aat ccc agg cgg gct cta       8769
Leu Leu Thr Ala Met Glu Met Lys His Arg Asn Pro Arg Arg Ala Leu
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Pro Lys Pro Lys Pro Lys Pro Asn Ala Pro Thr Gln Arg Pro Pro Gly
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cgg ctg ggc cgc tgg atc agg acc gtc tct gat gag gac ctt gag gga    8865
Arg Leu Gly Arg Trp Ile Arg Thr Val Ser Asp Glu Asp Leu Glu Gly
245             250             255             260

tcc atc gcc acc atg gtg agc aag ggc gag gag ctg ttc acc ggg gtg    8913
Ser Ile Ala Thr Met Val Ser Lys Gly Glu Glu Leu Phe Thr Gly Val
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gtg ccc atc ctg gtc gag ctg gac ggc gac gta aac ggc cac aag ttc    8961
Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe
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Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr
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ctg aag ttc atc tgc acc acc ggc aag ctg ccc gtg ccc tgg ccc acc    9057
Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr
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Leu Val Thr Thr Leu Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro
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Asp His Met Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly
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tac gtc cag gag cgc acc atc ttc ttc aag gac gac ggc aac tac aag    9201
Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys
            360             365             370

acc cgc gcc gag gtg aag ttc gag ggc gac acc ctg gtg aac cgc atc    9249
Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile
        375             380             385

gag ctg aag ggc atc gac ttc aag gag gac ggc aac atc ctg ggg cac    9297
Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His
    390             395             400

aag ctg gag tac aac tac aac agc cac aac gtc tat atc atg gcc gac    9345
Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp
405             410             415             420

aag cag aag aac ggc atc aag gtg aac ttc aag atc cgc cac aac atc    9393
Lys Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile
            425             430             435

gag gac ggc agc gtg cag ctc gcc gac cac tac cag cag aac acc ccc    9441
Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro
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atc ggc gac ggc ccc gtg ctg ctg ccc gac aac cac tac ctg agc acc    9489
Ile Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr
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Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val
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Leu Tyr Lys
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Leu Ser Val Phe Met Trp Leu Glu Glu Asn Gly Ile Val Thr Asp Met
            35                  40                  45

Ala Asn Phe Ala Leu Ser Asp Pro Asn Ala His Arg Met Arg Asn Phe
        50                  55                  60

Leu Ala Asn Ala Pro Gln Ala Gly Ser Lys Ser Gln Arg Ala Lys Tyr
65                  70                  75                  80

Gly Thr Ala Gly Tyr Gly Val Glu Ala Arg Gly Pro Thr Pro Glu Glu
                85                  90                  95

Ala Gln Arg Glu Lys Asp Thr Arg Ile Ser Lys Lys Met Glu Thr Met
            100                 105                 110

Gly Ile Tyr Phe Ala Thr Pro Glu Trp Val Ala Leu Asn Gly His Arg
            115                 120                 125

Gly Pro Ser Pro Gly Gln Val Lys Tyr Trp Gln Asn Lys Arg Glu Ile
            130                 135                 140

Pro Asp Pro Asn Glu Asp Tyr Leu Asp Tyr Val His Ala Glu Lys Ser
145                 150                 155                 160

Arg Leu Ala Ser Glu Glu Gln Ile Leu Arg Ala Ala Thr Ser Ile Tyr
                165                 170                 175

Gly Ala Pro Gly Gln Ala Glu Pro Pro Gln Ala Phe Ile Asp Glu Val
            180                 185                 190

Ala Lys Val Tyr Glu Ile Asn His Gly Arg Gly Pro Asn Gln Glu Gln
            195                 200                 205
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Arg Pro Pro Gly Arg Leu Gly Arg Trp Ile Arg Thr Val Ser Asp Glu
            245             250             255
Asp Leu Glu Gly Ser Ile Ala Thr Met Val Ser Lys Gly Glu Glu Leu
            260             265             270
Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn
        275             280             285
Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr
    290             295             300
Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val
305             310             315             320
Pro Trp Pro Thr Leu Val Thr Thr Leu Thr Tyr Gly Val Gln Cys Phe
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Ser Arg Tyr Pro Asp His Met Lys Gln His Asp Phe Phe Lys Ser Ala
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Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp
        355             360             365
Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu
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Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn
385             390             395             400
Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr
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Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile
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